

REMARKS/ARGUMENTS

Claims 1-7 and 9-15 are presented in the application.

Claims 1, 7, 12, 14, and 15 are amended. New claims 16-17 are added. Support for the new and amended claims can be found throughout the application. No new matter has been added. Applicants thank the examiner for indicating that claims 10-11 are allowed. However, as discussed below, it is respectfully submitted that the remaining claims are also patentable over the cited references.

Examiner Interview

On April 30, 2010, Applicants' undersigned representative conducted a telephonic interview with Examiner Liew. During the interview, a proposed amendment to claim 1 was discussed. It was agreed that the proposed amendment would overcome the 102 rejections drawn to Ikeda. The proposed amendment is submitted herewith and similar amendments are made to claims 7, 12, and 14. Applicants wish to thank Examiner Liew for his courtesy in granting the interview.

Rejections under Section 102

Claims 1, 4, 7-8 and 12-15 are rejected under 35 U.S.C. 102 as being anticipated Ikeda et al. (US 7,068,834). Applicants respectfully submit that Ikeda does not disclose or fairly suggest each and every element of the rejected claims.

Claim 1 recites a defect analysis method comprising "obtaining a defect distribution pattern on a wafer map from the processed defect position information, the defect distribution pattern representing a placement state of a plurality of defects on the wafer map; classifying the obtained defect distribution pattern on the wafer map into one of a plurality of regional defect categories... wherein the plurality of regional defect categories comprises: repeated defects, clustered defects, arc-shaped regional defects, radial regional defects, line type regional defects, ring and blob type regional defects and random defects; and displaying, on a display screen, the classified defect distribution pattern relative to the wafer map."

The Office Action cites Fig. 11 and Fig. 16 from Ikeda in support of the rejection. Fig. 11 illustrates a data format produced from the classification of individual defect images. Col. 6, lines 15-18. Classification of defect images is discussed in connection with Fig. 1 and includes a process by which a user moves individual defect images into a classification area. Col. 3, lines 36-66. There is no mention of a defect distribution pattern which represents a placement state of a plurality of defects as claimed.

Fig. 16 of Ikeda shows an analyzing screen which collects classification results including the number and rate of occurrence of defect categories calculated from the individual defect classification data of Fig. 11. Col. 8, lines 8-19. However, in the cited material, Ikeda does not mention a defect distribution pattern representing a placement state of plurality of defects on a wafer map, that the defect distribution pattern is classified into one of a plurality of regional defect categories, or that the classified distribution pattern is shown relative to the wafer map with regional defect categories differently displayed.

Applicants therefore respectfully submit the cited portions of Ikeda do not disclose or fairly suggest at least “obtaining a defect distribution pattern on a wafer map from the processed defect position information, the defect distribution pattern representing a placement state of a plurality of defects on the wafer map; classifying the obtained defect distribution pattern on the wafer map into one of a plurality of regional defect categories...and displaying...the classified defect distribution pattern relative to the wafer map.”

Claims 7, 12, and 14 recite limitations similar to those discussed in connection with claim 1 and each is therefore allowable over Ikeda for at least similar reasons. Claim 7, for example, recites a method comprising “processing the stored defect distribution information using a processor to obtain a defect distribution pattern representing a placement state of a plurality of defects on a wafer map; identifying a repeated defect in the defect distribution pattern... classifying the identified defects using the processor into corresponding regional defect categories; and displaying the processed information on the wafer map...such that the different regional defect categories are displayed using different colors.” Ikeda does not disclose or fairly suggest at least these features of claim 7 in the cited material.

Claim 12 recites a defect data analysis apparatus comprising “defect distribution calculation means for obtaining a defect distribution pattern on a wafer map from the defect position information, the defect distribution pattern representing a placement state of a plurality of defects on a wafer map; regional defect distribution classification means for classifying the defect distribution pattern to one of a plurality of regional defect categories...and output means for outputting the classified defect distribution pattern relative to the wafer map.” Ikeda does not disclose or fairly suggest the defect distribution calculation means, regional defect distribution calculation means, or output means of claim 12 in the cited material.

Claim 14 recites a review system comprising “a defect data analysis apparatus for obtaining a defect distribution pattern on a wafer map using the position coordinates, the defect distribution pattern representing a placement state of a plurality of defects on the wafer map, and for classifying the defect distribution pattern into one of a plurality of regional defect categories....” Ikeda does not disclose or fairly suggest at least these features of claim 14 in the cited material. Reconsideration and allowance of claims 1, 7, 12, and 14 is respectfully requested.

Rejections under Section 103

Claim 4 is rejected under 35 U.S.C. 103 as being unpatentable over Ikeda in view of Tobin, Jr. et al. (US 5,982,920). Claims 2 and 9 are rejected under 35 U.S.C. 103 as being unpatentable over Ikeda in view of Smilansky et al. (US 7,016,526). Claim 5 is rejected under 35 U.S.C. 103 as being unpatentable over Ikeda in view of Li (US 6,130,959). Claims 3 and 6 are rejected under 35 U.S.C. 103 as being unpatentable over Ikeda in view of Maruo (US 6,408,105). Applicants respectfully submit that the secondary references do not cure the deficiencies discussed above. Since each of claims 2-6, 9, 13, and 15 depends, directly or indirectly, from one of claims 1, 7, 12, or 14, each is therefore allowable for at least the reason that it depends from an allowable base claim in addition to deriving patentability from its further limitation thereof.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,



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